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REPORT ON AUTOGIRO SCOUTING OVER SOUTHERN PINE BEETLE INFESTATION NEAR FRANKLIN, VA.

by
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and
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April 5, 1939

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Report on Autogiro Scouting over Southern Pine Beetle Infestation near Franklin, Va.

By F. C. Craighead and B. H. Wilford.

Through the assistance of Mr. E. G. Brewer, in charge of the Dutch Elm Control Unit, an autogiro and a pilot (Mr. Faulkner) were loaned to the Division for two days, March 28, 29, scouting over a bark beetle infestation in the vicinity of Franklin, Va. The scouting was centered around an infested area known as the Big Woods, owned by the Camp Manufacturing Company. This particular tract, 12 miles south of Franklin, is approximately four miles square. The infestation was in its second year in 1938 and had apparently subsided last fall. Although no new successful attacks were found, a number of red top trees still standing were spotted from the air.

Weather conditions were fair, part of the time clear, rather windy, and part of the time showery. Several flights were made each day, each flight averaging about an hour in duration. The flights were made by Craighead and Wilford. Two of the company officials also made short flights to convince themselves as to the complete secession of the outbreak. The cruising speed of the plane was held around 35 to 40 miles per hour at an elevation of approximately 200 feet above the ground. While circling above particular spots forward speed was reduced to 25-30 m.p.h. and the altitude to 50 feet above the tree tops.

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The main purpose for detailing the autogiro to this job was to determine the practicability of using a machine of this type for spotting and locating bark beetle infested trees and to compare the feasibility of this work with the usual ground practice of running lines back and forth through the area. To thoroughly cover an area the size of the Big Woods and mark the ihfested trees, would require a ground crew of 3 men at least 15 to 20 days.

In one hour's flight over the area at an elevation of 100 to 300 feet, it was possible to completely cover the block and make a good estimate of the number of red top trees and locate them on geological survey maps carried by the observer. Individual red topped trees showed up very distinctly and could be recognized in the clumps, but at this low elevation the spread of the plane was a little too much to make an accurate count of individual trees. However, when signaled, the pilot would slow up and circle the clump, thus enabling the observer to obtain all the information needed. Unfortunately, as there was no active infestation, it was impossible to make a comparison of sorrel tops with the red tops of late summer.

To one generally familiar with the area, every detail and all land marks could be quickly and easily spotted on the first flight over. In the case of those not very familiar with the ground, it required more time to keep one's self oriented by the detailed features of the map.

In general, all of us were very much pleased with the results of this trial. It clearly demonstrated that the giro is of inestimable value in locating bark beetle infestations and in checking up on the results of

control work. It is felt that scouting by giro is the most suitable method yet tested for locating the fading foliage of infested southern pines. The difficulty of conducting control work during the summer season against southern pine beetle infestations is the time consumed in surveying and locating the trees -- ground methods preclude any possibility of treating the trees before the brood emerges. With the giro, fading trees could be detected at the earliest possible moment and accurately located. Crews could go in, cut the trees, and salvage the logs before the broods emerged. It even is possible under some circumstances that the giro could direct ground crews to the fading trees without plotting the spotted trees on the map.

It would be desirable to test the autogiro in some of the western bark beetle infestations. It should be particularly adaptable to surveys of the western pine beetle in California and Oregon and it would appear possible to use it to replace spotting crews in spring and summer control.

Mapping of defoliated areas could be done quickly and effectively even to distinguishing different degrees of defoliation.

The smaller machine could hardly be used in areas exceeding 5,000 feet in elevation. However, it is understood that the larger planes will operate efficiently and safely up to 8,000 or 9,000 feet.

We greatly appreciated the hearty cooperation of Mr. Camp, Mr. Cuthbert and other officials of the Camp Manufacturing Company at Franklin, Virginia.